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NON-MOTORIZED TRANSPORTATION

A SUBELEMENT OF THE CIRCULATION ELEMENT

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NON-MOTORIZED TRANSPORTATION;

A SUBELEMENT OF THE CIRCULATION ELEMENT

City planning Oceanside
Traffic Bicycles "

Prepared by:

Oceanside Planning Department
City of Oceanside
November, 1975

Approved by:

Planning Commission
City of Oceanside
December 1, 1975
Resolution No. 75-P82

Adopted by:

City Council
City of Oceanside
February 4, 1976
Resolution No. 76-16

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Louis N. Lightfoot
Planning Director

City Hall
704 Third Street
Telephone: 433-9000

Oceanside, California 92054

November, 1975

Honorable Mayor and City Council
Chairman and Members of the Planning Commission

Subject: Letter of Transmittal for the Non-Motorized Transportation Subelement of the Circulation Element

The Planning Staff is pleased to submit for your consideration a subelement of the previously adopted Circulation Element of the General Plan. That element dealt with all of the various modes of transportation, and one of the recommendations that resulted was to prepare a subelement specifically treating non-motorized transportation as an integral part of circulation throughout the City.

In 1973, the City formally adopted its first Bicycle Route System. Since that time, design standards have been developed as a result of state and region-wide planning efforts. Some of the routes in the original Bicycle Route System have been implemented, and the lessons learned from these initial efforts were considered in the revised plans contained in this writing. In addition, equestrian trails and pedestrian circulation are included as part of the recreational trails network.

It is our hope that the information contained in this subelement will prove to be a useful tool in the decision-making process, and that the end result will be a viable circulation system for non-motorized transportation.

Sincerely,

Louis N. Lightfoot
Planning Director

BW:LNL:ld

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CHAPTER 1

CHAPTER 1

Introduction

For a long time transportation planning has concerned itself with facilities intended for the circulation of motorized vehicles. In recent years, consideration of non-motorized transportation has become increasingly important. Emphasis on the automobile, especially in California, has caused several problems including increased air pollution, preclusion of methods of circulation other than motorized, and an overwhelming demand for parking and service facilities to name a few. Partial solutions to these problems in some cases have been drawn from a re-evaluation of the potential of non-motorized transportation to relieve these pressures. Bicycle and pedestrian-oriented planning attempts to provide space for people in an automobile dominated circulation system. Motorized transportation facilities are costly and often represent major commitments of natural resources. On the other hand, bicycle and pedestrian facilities are flexible, and can be implemented at far less cost economically and environmentally.

The recreational value of hiking, biking and equestrian trails has been long recognized as a major asset. Scenic quality is often a prime consideration, and Oceanside contains several unique opportunities because of its location and natural physical features. There are two major trails corridors in Oceanside that are identified in the draft State Recreational Trails and Hostel Plan. The primary corridor is along the coast. This pilot project has received a high priority for implementation. The second designated trails corridor follows the San Luis Rey River Valley, and will eventually become a primary east-west passageway in southern California. Local planning plays a key role in the development of the trails system. The bicycle route plan, pedestrian circulation and equestrian trails systems presented here recognize this responsibility.

AUTHORITY

As mandated by State requirements, the Circulation Element of the General Plan, as approved by the City Council on October 8, 1975 (Resolution No. 75-184), contains a section on non-motorized transportation. The Circulation Element outlines the need for an integrated plan for biking, hiking and equestrian trails throughout Oceanside and recommends that a subelement of the Circulation Element would be appropriate to effectively handle non-motorized transportation considerations. Planning for the safe and efficient circulation of bicyclists, riders and hikers is essential with the continuing urbanization and development of the City. Implementing the system as this development occurs eliminates problems in the future caused by attempts to superimpose these facilities after the fact.

SCOPE

The bicycle routes plan, and the hiking and equestrian trails system have been devised after careful consideration of several factors. Although the City only has jurisdiction within the City limits, a study of both the state and regional systems as well as neighboring communities have been consulted and coordinated with the Oceanside Plan, thus ensuring continuity and compatibility with these systems.

RELATIONSHIP TO OTHER ELEMENTS

The Bicycle Route System relies heavily on the Circulation Element since the basic network of viable routes are an integral part of the Major Street Plan. As the Land Use Element is implemented and development occurs, parts of the bicycle route plan and the hiking and equestrian trails system will also be developed. All of the other elements of the General Plan, including Population and Housing, Environmental Resource Management, Recreation and Educational Facilities, Noise and Public Safety have provided the necessary planning data to formulate a system for non-motorized circulation in and through the City.

CHAPTER 2

GOAL

The overall goal of this element is to provide an integrated bicycle route plan, and hiking and equestrian trail system which will encourage the use of non-motorized transportation for recreation and commuter transportation, and provide safety and mobility for travel throughout the City.

OBJECTIVES

BICYCLE ROUTES

Transportation Objectives

1. Encourage the use of bicycles as an alternate mode of transportation by providing bike routes that are direct, convenient and easy to use which will link major residential areas with schools, shopping areas, centers of employment, civic facilities and other commuter destinations.

2. Develop a continuous bike route system within the City with connections to bike routes in adjacent communities for inter-city and intra-city travel.

Action Policies

1. As part of new development and/or street improvements, require construction of Class II facilities (bike lanes) on all streets designated as secondary collector bike routes on the bike route plan.

2. As part of new development, require construction of Class I facilities (Primary loop system) in cases where development is adjacent to, or part of, areas designated for linkage of the primary loop system on the bicycle route plan.

3. Wherever feasible, route bike lanes to minimize inconvenience to residents and businesses resulting from elimination of parking.

4. Coordinate bicycle route plans with citizens' groups and local, regional, and state governmental agencies involved with bicycle planning to assure continuity of routes.

Safety Objectives

1. Conduct a comprehensive bicycle safety program to educate cyclists, motorists and pedestrians as to their proper relationship in traffic and the safe operation of their vehicle.

2. Develop a city-wide bike route system that will minimize potential conflict between bicycles and motor vehicles, pedestrians and other bicycles.

Action Policies

1. Expand the bicycle safety program in public schools.

2. Encourage service clubs, P.T.A.'s and other organizations to educate their members about bicycle safety and to sponsor educational bicycling events.

3. Encourage the formation of bicycle clubs that promote safe bicycling.

4. Install bike route graphics that are visually prominent and easily understood by cyclists, motorists and pedestrians.

5. Provide physical separation between bicyclists and motorists where possible.

6. Where bike lanes are to be located within street improvements, require one-way bike lanes on both sides of the street to minimize bicycle/bicycle conflict and to discourage riding against the flow of traffic.

Recreation Objectives

1. Provide bike route access to and within city and regional parks, and to other public and private recreation facilities.

2. Provide a variety of recreational bike routes and lengths.

Action Policies

1. Require inclusion of bicycle facilities in all new park development, and install facilities in existing parks where feasible.

2. Establish bike routes that link parks, recreational facilities and tourist attractions, and where possible, plan for bike route loops so a bicyclist's return trip need not repeat earlier-traveled routes.

EQUESTRIAN TRAILS

Objectives

1. Develop an equestrian trail system compatible with land use while providing a means for circulation on horseback throughout the City.

2. Provide an important link in the State Recreational Trails Plan.

Action Policies

1. Designate the flood channel easement of the San Luis Rey River Valley as a corridor for riding trails and other recreational activities in accordance with the State Recreational Trails Plan.

2. Develop specific plans for improvements to the flood channel to accommodate the trails systems.

3. Promote horseback riding as a tourist attraction and, in conjunction with the development of an equestrian center at Guajome Regional Park, investigate the possibilities of locating other riding facilities in appropriate areas throughout the City and encourage the private development of those facilities.

PEDESTRIAN CIRCULATION

Objectives

1. Provide for pedestrian circulation throughout the City, including sidewalks, pedestrian access to the beach, pedestrian malls and hiking trails.

2. Provide access for the handicapped and elderly population to assure them safety and mobility.

Action Policies

1. Continue the City's policy requiring the construction of 5-foot wide sidewalks adjacent to the curb in all new developments and street improvements.

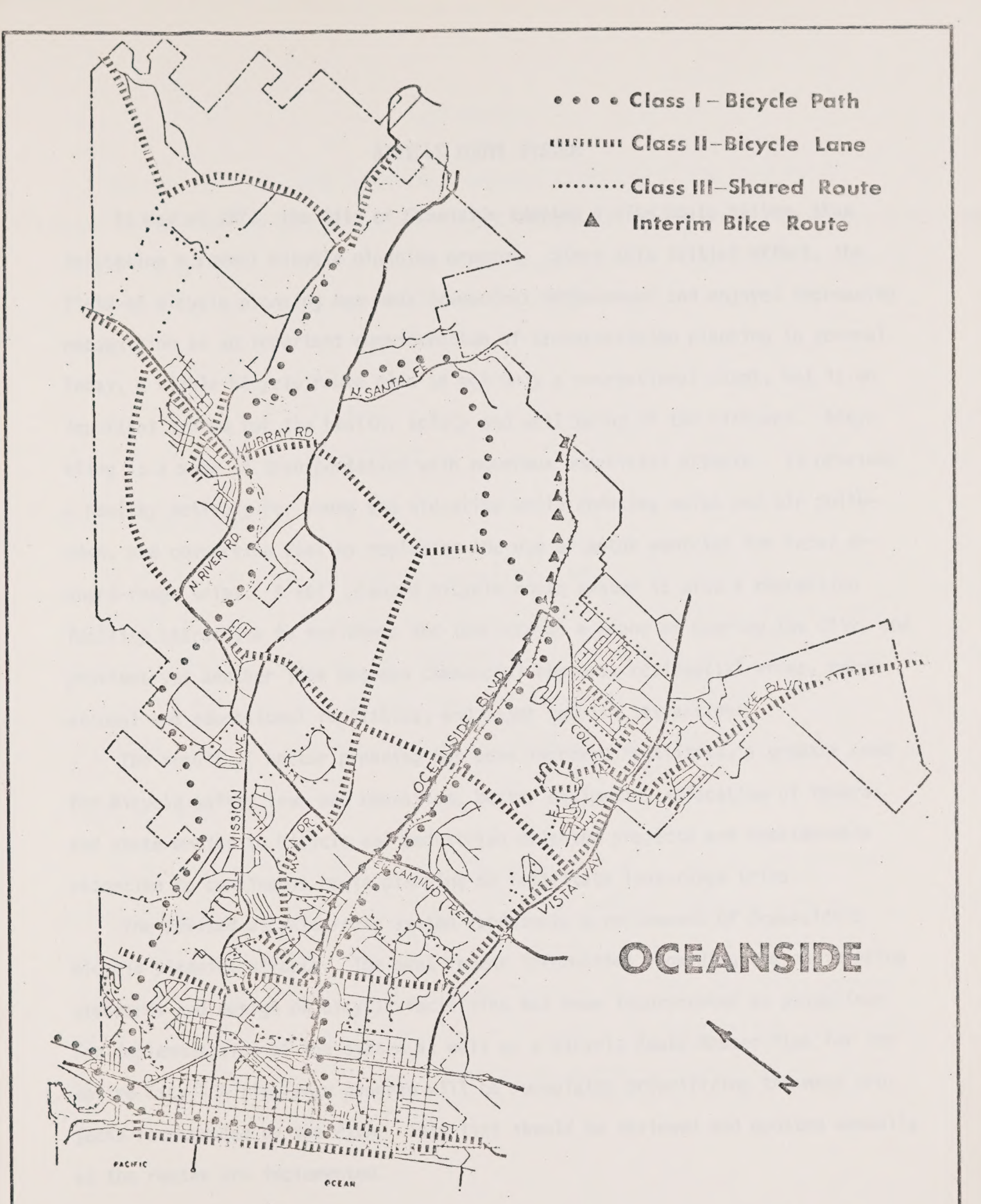
2. Protect pedestrian access to the public beach by maintaining easements and causing the construction of stairways and "walk-throughs" where appropriate.

3. Where feasible, encourage the concept of pedestrian malls and peripheral parking for park development and shopping districts.

4. Encourage the inclusion of greenbelts and common open space for pedestrian use in residential development.

5. In accordance with state law, provide access for the handicapped and elderly to all public buildings by the removal of architectural barriers.

CHAPTER 3



BICYCLE ROUTE SYSTEM Map 1

BICYCLE ROUTE SYSTEM

In May of 1973, the City of Oceanside adopted a bike route system, thus initiating a formal bicycle planning program. Since this initial effort, the field of bicycle planning has made tremendous advancement and enjoyed increasing recognition as an important consideration of transportation planning in general. Today, a viable bicycle route plan is not only a recreational asset, but is an important system for the health, safety and well being of the citizens. Bicycling is a mode of transportation with numerous beneficial effects. It provides a healthy activity for young and old alike while reducing noise and air pollution, and conserving fuel by replacing the use of motor vehicles for local or short-range trips. A well planned bicycle route system is also a recreation facility attractive to residents and tourists as a means of touring the City, and provides yet another link between commercial centers, residential areas, recreational and educational facilities, and major tourist attractions.

The result of better planning has been improved facilities, a greater need for bicycle safety laws and education, better equipment, allocation of federal and state monies to bicycle and pedestrian oriented projects and considerable attention to continuous route planning to facilitate long-range trips.

The revised bicycle route system represents a refinement of Oceanside's bicycle planning efforts. The most recent information regarding the engineering standards and design of bicycle facilities has been incorporated as guidelines for implementation of the system as well as a Bicycle Route Master Plan for the entire City. A five-year program will be formulated prioritizing the many projects recommended by the Plan. This list should be reviewed and updated annually as the routes are implemented.

DEFINITIONS

Several terms are used to describe bicycle facilities. The term "Bike Route" is defined in the California Highway Design Manual (Sec. 7-1000) as the overall system that explicitly provides for bicycle travel. There are three types or "classes" of bicycle routes:

(1) CLASS I - Bicycle Path

(2) CLASS II - Bike Lane

(3) CLASS III - Shared Route

CLASS I - BICYCLE PATH

A Class I facility is separated from motor vehicle facilities by space or a physical barrier. A bike path may be on a portion of the street right-of-way or on a separate right-of-way not related to a motor vehicle facility. It may be grade separated or have street crossings at designated locations. It is identified with guide signing and also may have permanent markings.

CLASS II - BIKE LANE

A Class II facility is a lane on the paved area of a road for preferential use of bicycles. It is usually located along the edge of the paved area or between the parking lane and the first motor vehicle lane. It is identified by "Bike Lane" or "Bike Route" guide signing, special lane lines and other pavement markers. Bicycles have exclusive use of a bike lane for longitudinal travel, but must share the facility with motor vehicles and pedestrians crossing it. Bike lanes should be one-way facilities.

CLASS III - SHARED ROUTE

A Class III bike route is not delineated in the roadway, and no special bicycle facilities are provided. Bicyclists share the road right-of-ways with other modes of transportation. This alternative offers little protection for the cyclist. Warning signs for motorists and cyclists are posted and guide signing to a preferred bike route may be placed at appropriate locations.

DESIGN STANDARDS

Cycling has regained a tremendous popularity with young and old alike. Along with this increased activity comes the need for careful planning to provide the safest and most efficient conditions for the operation of bicycles allowing for a variety of cycling needs. Bicycle riding can be safe or dangerous depending on the prevailing street and traffic conditions. The ratio of motor vehicles to bicycle traffic, road conditons, and resolution of conflict areas are but a few considerations in planning bicycle routes. Street and traffic conditions can be identified and quantified as to type and severity, and must be used to make decisions about existing and short-range bicycle facilities planning. Long-range planning should take into account the lessons learned from existing conditions as a means of designing and implementing a viable, useful system for the future which will provide maximum utility with maximum security.

Four major factors have been identified which affect the safe operation of bicycles. These elements are especially significant in the evaluation of existing conditions in establishing a bicycle route, although attention should be given to all of the criteria for optimum operating conditions. The four major considerations are the following:

(1) Outside lane dimension

(2) Vehicle speed (both motor and non-motorized)

(3) Vehicle volume (motor and non-motorized)

(4) Existing physical conditions

The outside lane dimension is half the road dimension of a two-lane roadway, or on a multi-lane roadway, it is the dimension of the outside lane to the curb. The width should be sufficient to accommodate separate vehicle and bicycle lanes. According to the Highway Design Manual standards, this would be interpreted to the following: The outside dimension on a two-lane roadway would be a minimum of 15 feet paved roadway where parking is prohibited, 18 feet where parking is restricted during peak bicycle use hours, and 23 feet where there are both parking and bicycle lanes permitted. In the case of a multi-lane roadway, at least 5 feet and preferably 8 feet should be provided for a bicycle lane in addition to the extreme right lane for motor vehicles (this does not include provisions for parking except of a restrictive nature). If a lane is not wide enough to accommodate moving vehicles, bicycles and parking, then parking should be prohibited. Under desired curb parking conditions, extra road width must be allowed for the bike lane. Certain areas may require restricted parking from 7:00 a.m. to 7:00 p.m. - EMERGENCY PARKING ONLY. On prime arterials and major roadways, parking must be restricted to emergency parking only.

The vehicle speed is the prevailing 85 percentile speed of both motor vehicles and bicycles. As the speed differences between bicycle and vehicles increase, more lateral space is needed to maintain the same relative degree of safety. In the cases where there is a large difference in speed, a bicycle path is recommended as a safety precaution.

The vehicle volume is the volume of motor traffic in the outside lane to which the bicycle is exposed. As this volume increases, sharing of the roadway becomes more difficult. Also, consideration should be given to the type of traffic using the roadway, i.e., autos, trucks, trailers, campers, etc., which

could affect the safety of the cyclist. If conditions become hazardous to the cyclist, a bicycle path again should be considered as an alternative.

Finally, in evaluating possible routes, it is important to be cognizant of the existing road conditions and improvements. Consideration should be given to grade, curves, vertical clearances and road surfaces as outlined below.

1. Grade - Excessive grades will increase speed differences between bicyclist and motorist requiring additional pavement width.

2. Curves - Additional space should be provided to allow for braking, over-correction and steering.

3. Vertical Clearance - Curbs, steep slopes, walls and parked cars require additional space to maintain the same level of safety.

4. Road surfaces - Should be in good condition (no holes, ridges, broken surfaces or loose gravel) to assure safety for the bicyclist. Paved shoulders should be properly maintained and kept free of debris.

Other design factors include sight distance, drainage, grates and obstructions, maintenance, resolution of conflicts at intersection, lighting and signing. Standards for these considerations are contained in the Highway Design Manual, and should be used as minimum standards where possible in selecting and planning routes.

In terms of cyclist safety, it is important to emphasize the extreme hazards of nighttime riding. Poor visibility is the prime factor here. To reduce the danger, bicycles should have reflectorized pedals and a lighting system. This is now required by State law for all bicycles. Also, overhead bike crossing illumination is critical at nighttime and back lighting is very desirable. The lighting must be capable of providing nighttime identification of the cyclist. For security, it is desirable that the bicycle route be lighted adequately to provide visibility of the surface and surroundings, particularly at intersections.

FIGURE 1: FULLY IMPROVED STREET WITH PARKING

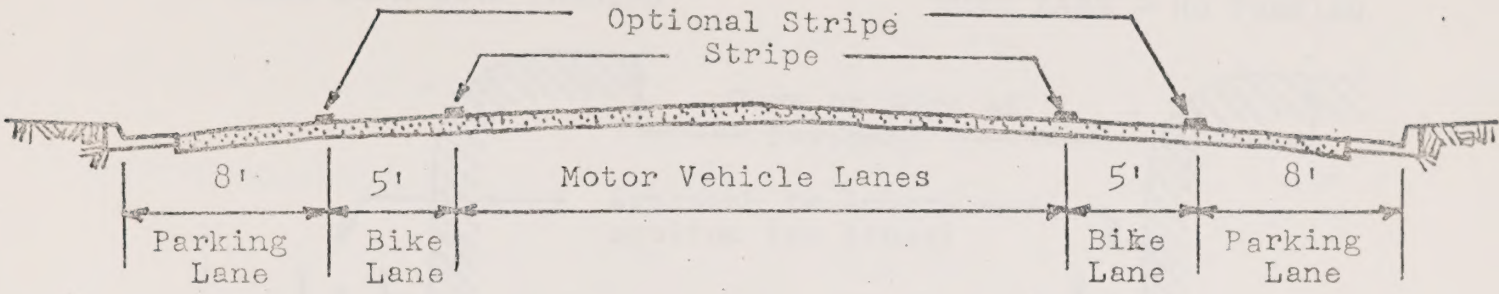


FIGURE 2: FULLY IMPROVED STREET - NO PARKING

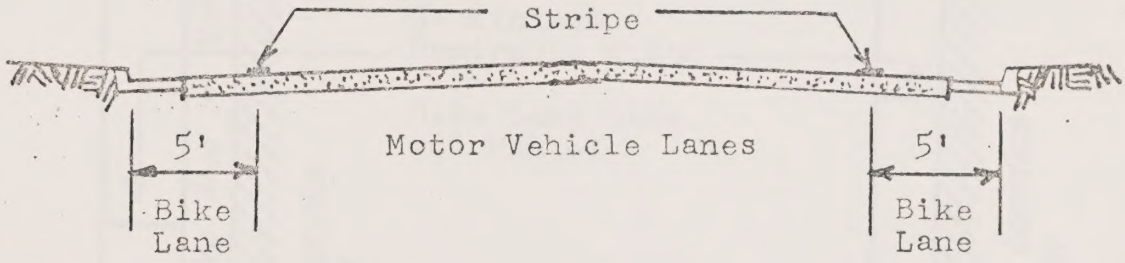


FIGURE 3: RURAL STREET

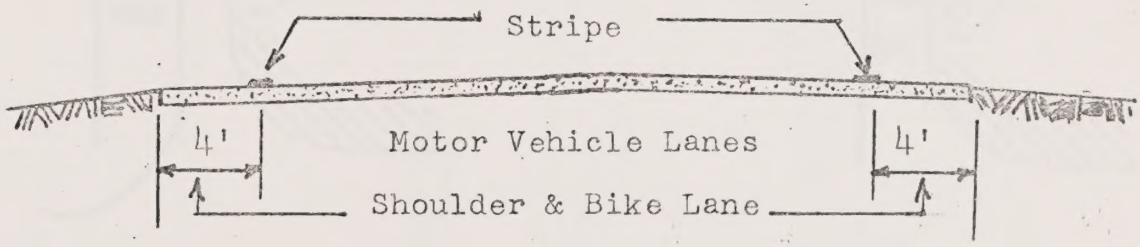


FIGURE 4: MULTI-LANE HIGHWAY WITH EMERGENCY SHOULDER

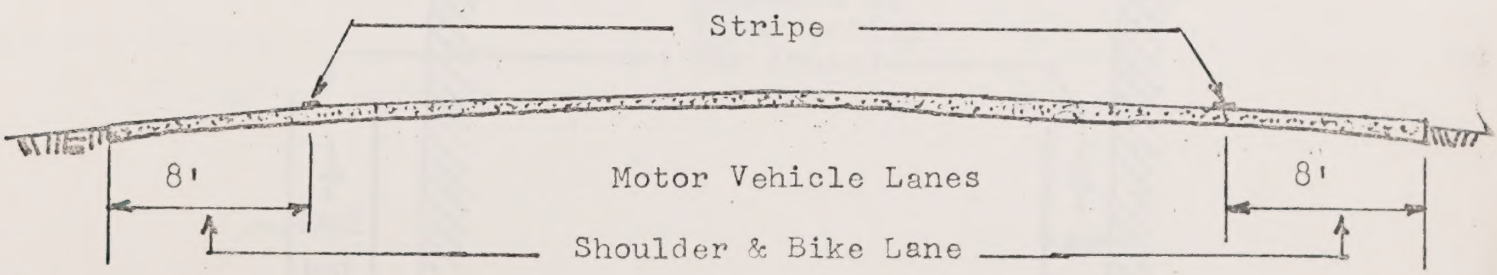


FIGURE 5

BIKE LANE WITH PARKING

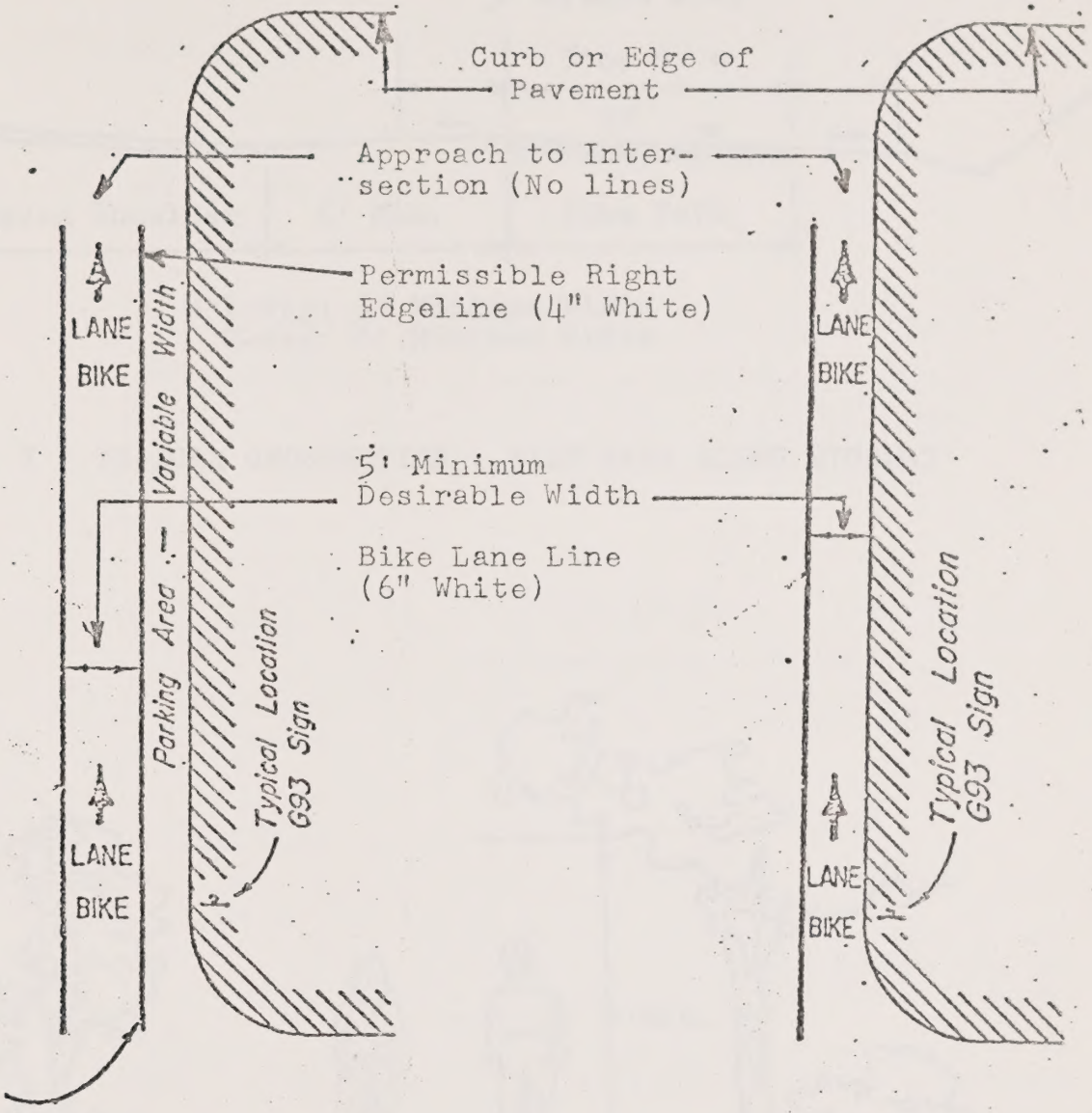
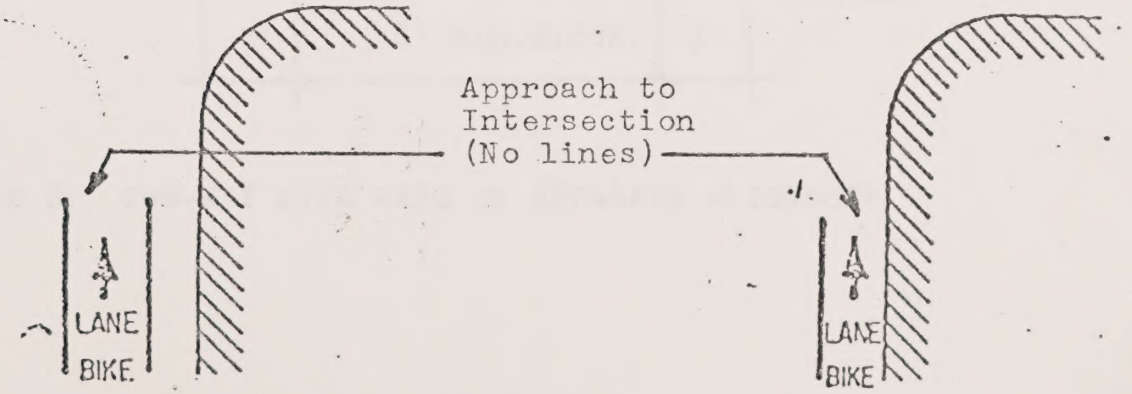


FIGURE 6

BIKE LANE - NO PARKING



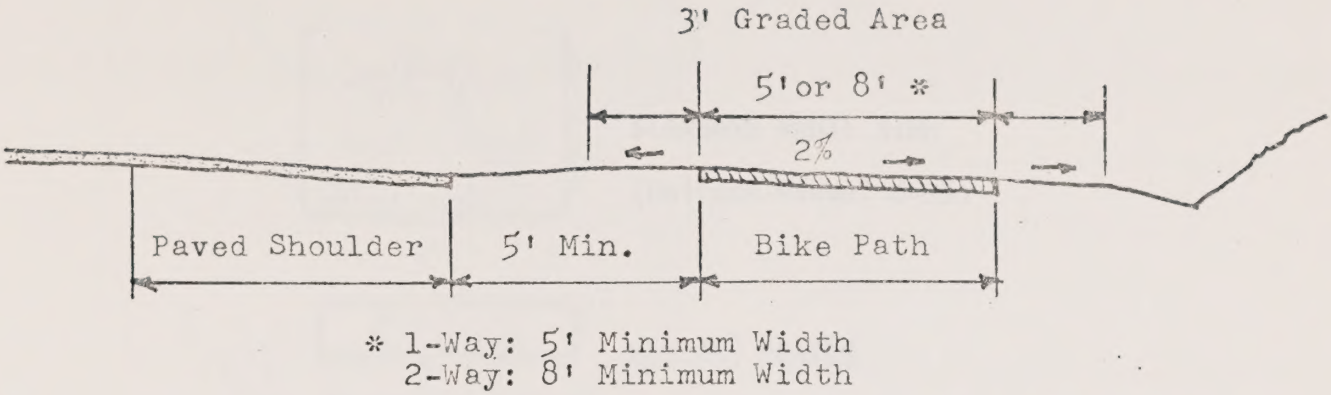


FIGURE 7 : TYPICAL CROSSECTION - BIKE PATH ALONG HIGHWAY

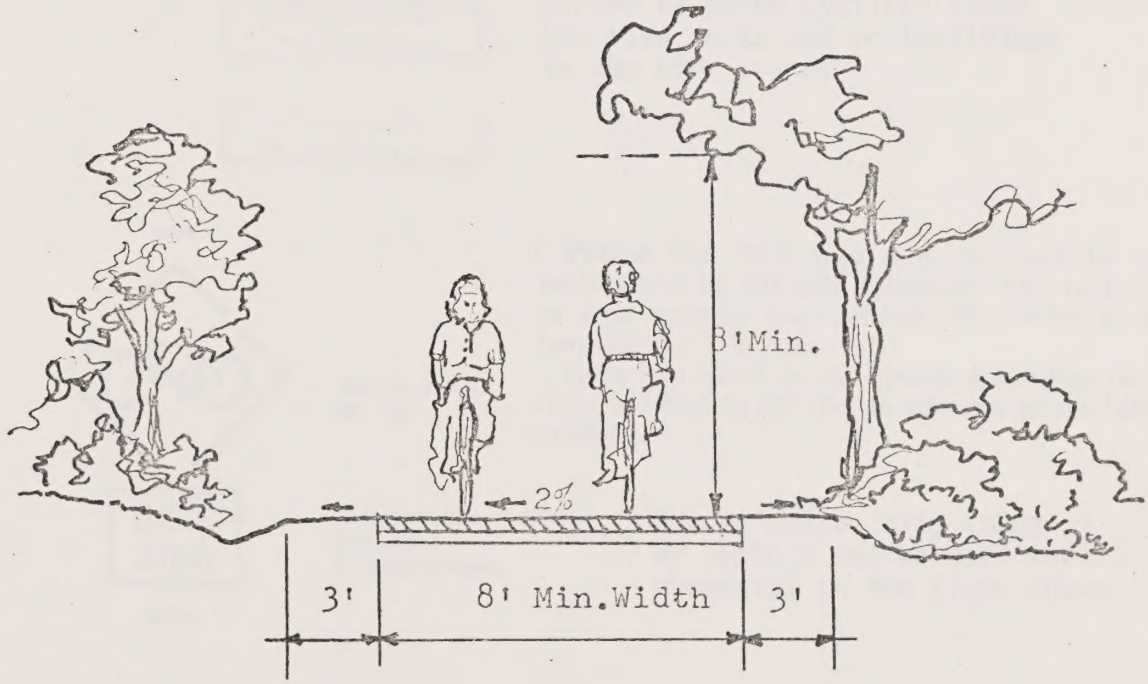


FIGURE 8: TWO-WAY BIKE PATH ON SEPARATE ALIGNMENT

FIGURE 9: STANDARD BIKE ROUTE SIGNING

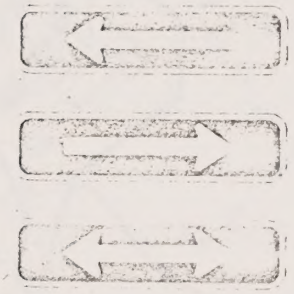
(State of California Traffic Mannual)

STANDARD ROUTE SIGN

(Uniform Manual G-95)

MESSAGE PLATES

To be mounted above the official marker to designate the beginning and ending of the bike route, and to trailblaze to the bike route.



DIRECTIONAL PLATES

To be mounted below the official marker to guide cyclists along the bike route and to trailblaze to the bike route.

W79

Black on Yellow
30" x 30"

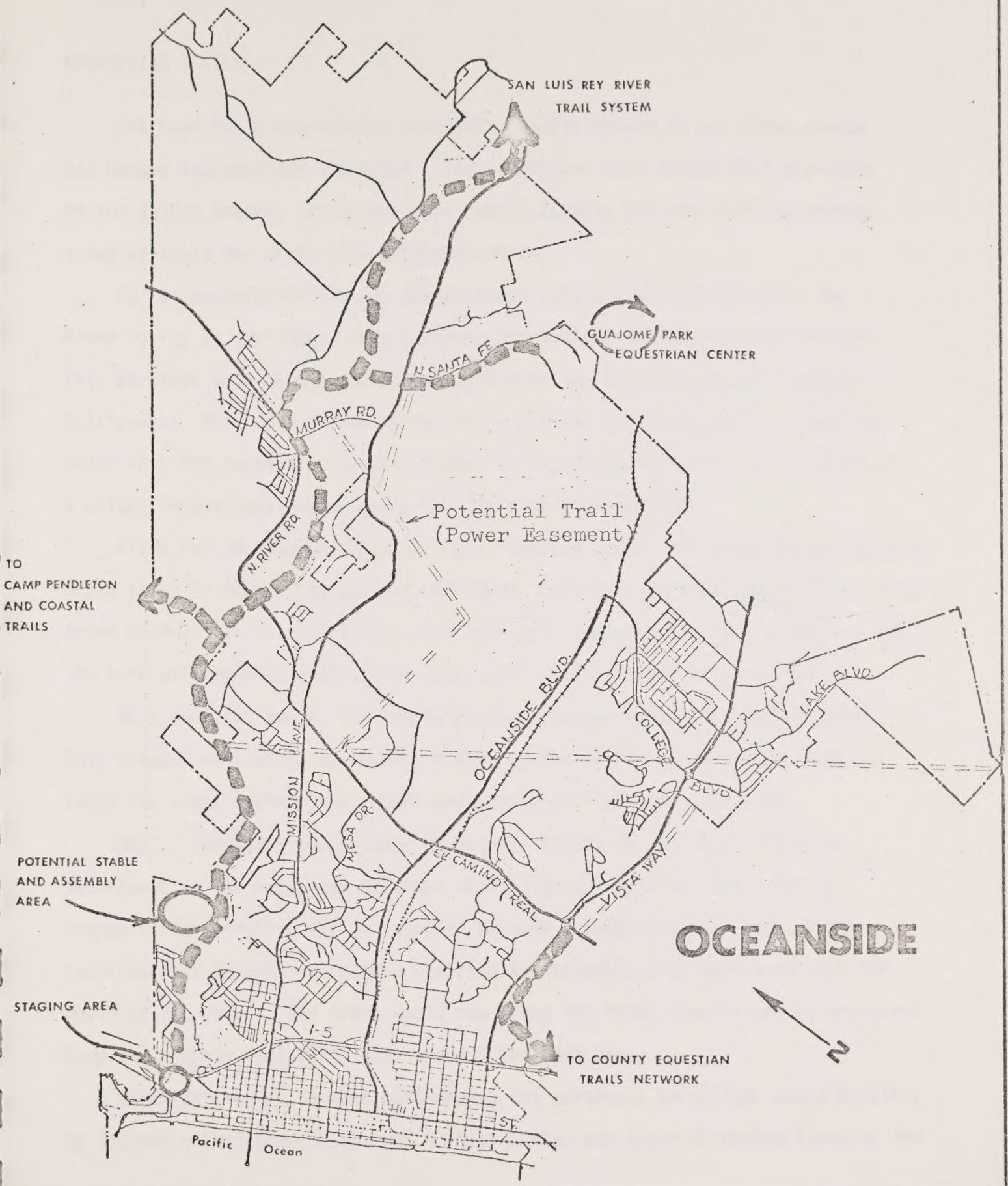
Policy: The W79 sign may be used to warn motorists of an officially designated bike path, trail, or lane crossing the roadway. The W79A is used beneath the W79 sign.

Location: Erect in the standard position on the right 250 feet to 750 feet in advance of the bicycle crossing.

W79A

Black on Yellow
24" x 18"
5" Series D letters

NOTE: Scenic route, city logos or symbols can be used supplemental to the signs above.



EQUESTRIAN TRAILS Map 2

EQUESTRIAN TRAILS

The need for a coordinated equestrian trails system in San Diego county has become increasingly important. The county has more horses than any other in the United States. As agricultural areas dwindle and urbanization spreads, areas suitable for trail riding become scarce.

In the proposed California Recreational Trails plan, the San Luis Rey River Valley is designated as a corridor for hiking, biking and riding trails. This corridor is a primary east/west link with the inland areas in southern California. The river valley represents a natural scenic passageway from the coast into the peninsula mountain ranges to the east, and should be utilized as a unique recreational opportunity for the city of Oceanside.

Plans for the Guajome Regional Park, located south of Mission Avenue between North Santa Fe Avenue and Guajome Lake Road, call for the development of an equestrian center. It is anticipated that this will generate interest in riding, and the park will provide good access to a trail system in the river valley.

On a regional scale, the County is preparing an equestrian trail system. This network will serve as overall trails system providing connector links between the local systems for better continuity over greater distances.

Map indicates the primary equestrian trails in the city. Of prime importance is the east/west corridor within the San Luis Rey River Valley. Access to this trail would be provided through Guajome Regional Park, Camp Pendleton and possibly through a stabling and assembly area somewhere near the mouth of the river. The trail would run along the flood channel and be separated from the bicycle facilities also planned for this area.

Secondary routes in both north/south and east/west directions could possibly be located within power easements. These routes are shown in dashed lines on the

map since the feasibility of equestrian trails along the power easements has not been determined.

It should be noted that development of large tracts of land may provide yet another opportunity for the installation of equestrian trails. This may be true especially in areas with direct or convenient access to the river valley or Guajome Regional Park. Development plans should include provision for these local equestrian trails wherever feasible.

Standards for Equestrian Trails

The design of the trail system will depend on the implementation of each segment. As portions of the system are designed and implemented, they should be adapted to the particular geographical, topographical and geological conditions of the area it covers. The design of the equestrian trails should remain flexible, but generally the trails should require little maintenance, have sufficient clearance and width to accommodate anticipated traffic, and offer a variety of riding experiences.

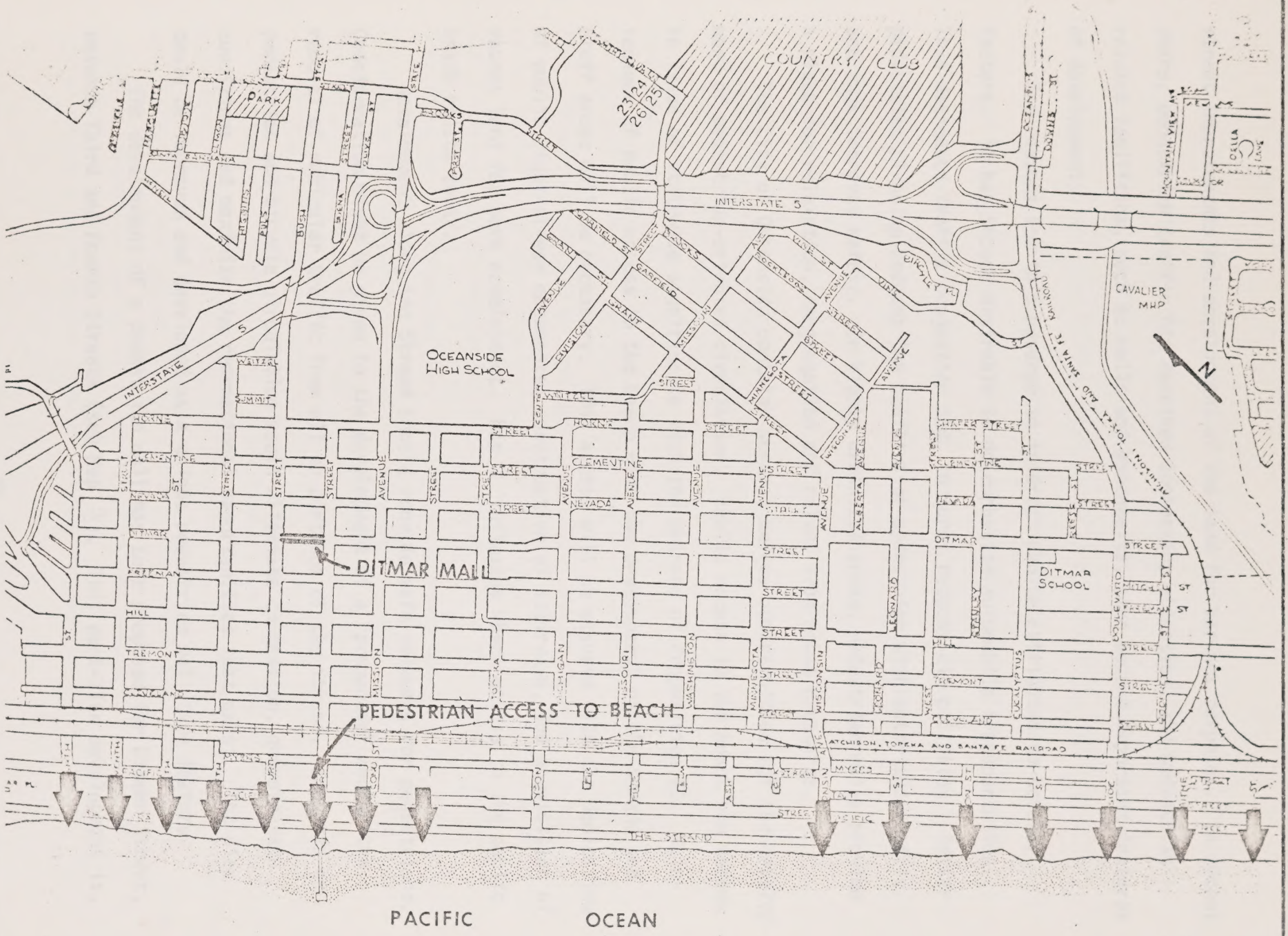
Where trails cross streets, appropriate warning signs and street markings should be installed, and separated grade crossings should be encouraged where feasible.

In developed areas, it may become necessary to install fences and/or landscaping to prevent straying from the trail and to protect adjacent properties. It should be noted, however, that most of the system planned for Oceanside is located in undeveloped areas recommended for open space preservation and/or flood control.

PEDESTRIAN CIRCULATION

Consideration of pedestrian circulation in most cases in the past has been restricted to the installation of sidewalks. This has been directly related to

PEDESTRIAN ACCESS Map 3



street improvements and development of the land for various purposes. In recent years, pedestrian traffic has received increasing attention, and pedestrian related facilities, such as malls and greenbelts, have become important features of development.

The reasons for this upsurge in interest can be attributed to several factors. It has become desirable to de-emphasize automobile transportation. This decreases traffic congestion and, in turn, reduces air pollution. Better pedestrian planning reduces the conflict of pedestrian with motorized traffic and thus improves safety. In highly urbanized areas, pedestrian malls provide a place for relaxation, congregation and relief from urban pressures.

The City of Oceanside contains several unique opportunities for the development of pedestrian-oriented circulation. Public access to the beach has become an issue of statewide significance with the passage of Proposition 20. Maintenance of public access to the beach with the development of the Strand and bluff areas will be necessary. This access will be assured with the dedication of public right-of-way easements, construction of stairways, and acquisition of vacant land for park development. Map 3 indicates where access to the public beach exists today.

Development along the Strand should provide safe walkways for pedestrians. Consideration might be given to the development of a "promenade" and/or the removal of vehicular traffic from all or portions of the Strand. Emphasis on pedestrian and bicycle circulation would alleviate congestion, promote safe conditions and maximize the recreational opportunities that exist. The pier could be improved and developed as a unique pedestrian mall-type feature.

The development of a pedestrian mall has been proposed for Ditmar Street, between Third and Fourth Streets (see Map 3). This park-like development is,

in effect, the beginning of unifying the Civic Center, providing easy pedestrian circulation between the Library, City Hall and the City Administrative Center.

Hiking trails are another important consideration in planning pedestrian circulation. As was true of the other modes of non-motorized transportation, there are two main corridors designated on the States Trails Plan -- the coastal route and the inland route through the San Luis Rey River Valley. The coastal trail will undoubtedly be planned with the formation of a specific plan for the beach and Strand. The inland trail could be coordinated with the planning and development of biking and equestrian trails along the flood channel in the San Luis Rey River Valley.

Implementation of Non-motorized Transportation Element

Detail planning and construction of the various facilities needed for non-motorized transportation will depend on the formation of a comprehensive program for implementation. As is true of motorized transportation, it is recommended that a five-year program be developed with annual review to keep the plan current. Inclusion of non-motorized traffic considerations in the review of development plans and street improvement designs would facilitate implementation of the system as development occurs. Recreation facility planning and development can supply the impetus for further implementation by developing specific plans for the San Luis Rey River Valley and also the public beach area.

Funding of the bicycle, hiking and equestrian trails system may be available through several sources. These are outlined on Table , and depend on the availability of monies, and the priority designated to each project by the appropriate authorities. A lead agency should be designated to implement the program. They would be responsible for applying for funds and overseeing the incorporation of non-motorized transportation into the general circulation system of the City.

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Table I
Funding Sources

LOCAL TRANSPORTATION FUNDS (SB 325)

BICYCLE LICENSING FEES

FLOOD CHANNEL IMPROVEMENT (CORPS OF ENGINEERS)

LAND AND WATER CONSERVATION FUNDS

COMMUNITY DEVELOPMENT FUNDS

PARK DEVELOPMENT FUNDS

FEDERAL HIGHWAY FUNDS

STATE RECREATIONAL TRAILS FUNDING

CAPITAL IMPROVEMENT PROJECTS

ADDENDUM TO THE ENVIRONMENTAL IMPACT REPORT ON THE CIRCULATION ELEMENT OF THE GENERAL PLAN

PURPOSE

This addendum is intended to provide supplemental information for the Environmental Impact Report on the Circulation Element of the General Plan. The base information in the EIR on Circulation is the same for the subelement on non-motorized transportation. However, special considerations with respect to stresses placed on the environment by the development of a circulation system for non-motorized transportation warrant further assessment. Therefore, specific attention must be given to impacts, mitigation measures, and alternatives. It should be noted that the plans presented are still in concept form and specific projects have not been formulated. The addendum will also be general in nature similar to the EIR on the Circulation Element.

ENVIRONMENTAL IMPACTS

1. Wildlife Systems

The introduction of off-road non-motorized transportation facilities (bicycle paths, equestrian and hiking trails) opens areas that were previously inaccessible by conventional transportation modes. The system encourages human activity in potentially sensitive wildlife habitats. However, the proposed routes are located in areas that will undergo some form of disturbance with or without implementation of the trails system either through development or flood control measures.

2. Traffic and Transportation

Perhaps one of the most significant impacts of the proposed plan is the impact that will occur on traffic and transportation. The addition of bicycle lanes (secondary - Class II routes) on existing and proposed streets will add a new dimension to the traffic pattern. Along routes where there is insufficient width of the street improvements to accommodate both parking and bicycle lanes, it may be necessary to restrict parking. Additional expenditures will result for signing and striping the bike lanes. Conflicts may result at intersections because of the multi-modal traffic mix.

Looking at it from another point of view, one also has to take note of the potential for increasing the safety of cyclists who are now using the streets for circulation. The plan would define a specific area of the road for bicycle travel and thus clarify the respective positions of motorists and cyclists on the thoroughfares. Also, the purpose of the Class I facility (bike loop system) is to provide a separated facility for the exclusive use of bicycles for circulation throughout the City. This has the potential of removing some of the bicycles from the public streets and decreasing the potential for motorist-bicyclist conflict.

3. Noise and Air Quality

Non-motorized transportation systems have the potential of relieving some of the impacts of a motorized circulation system in terms of noise and air pollution. By encouraging people to use bicycles and encouraging them to walk to destinations within a short range, the necessity of using the automobile for short trips decreases. Therefore, the noise and air pollution levels will decrease. This will be a beneficial effect of the proposed plan.

4. Public Services

The proposed plan will have an impact on public services. This will probably arise from misuse, rather than use, of the facilities. Policing of the off-road facilities has been found to be difficult. The potential of use by off-road motorized vehicles (i.e., trail bikes) is one hazard. Vandalism on adjacent properties is a potential adverse impact, as well as littering. Unless a sufficient maintenance program is established and implemented, the trails could become safety hazards and fall into disrepair. Maintenance costs should not be neglected in the estimated costs of the specific projects.

5. Social Impacts

The proposed plan has several beneficial social impacts. It would expand the recreational facilities of the City. It would provide a scenic method of touring the City or commuting to work or school. The implementation of the plan would also require an improvement of the bicycle safety education program.

MITIGATION MEASURES

1. Wildlife Systems

   a. Design trail system after careful research of wildlife habitats and unique vegetation to avoid unnecessary disturbance of plant and animal communities.

   b. Provide adequate trail information to prevent straying from designated routes.

   c. Limit the types of activities (uses) of the systems.

2. Traffic and Transportation

   a. Impact on traffic can be mitigated by placing routes on streets that prohibit parking already, but have adequate right-of-way to accommodate bike lanes. These routes would have first priority during implementation of the system.

   b. Require adequate right-of-way dedication in new streets and on street improvements.

   c. Remove parking on existing streets only under circumstances of demonstrated need and community interest which would support a bicycle facility.

   d. Introduce bicycle detector loop systems for traffic light signalization at intersections with potential of high conflict with motorists and cyclists.

3. Public Services

   a. The problem of off-road vehicles utilizing the system can be mitigated through special design treatment of access points to trails. This will depend on specific project design proposals to be developed at a later date.

   b. Policing of the trails will depend on the visibility and accessibility of the off-road facilities from existing roads and development. Further physical protection from adjacent properties such as fencing and heavy landscaping would mitigate vandalism and property damage.

c. Design trails of sufficient width to accommodate park maintenance equipment.

d. Rest stops should be located at easily accessible maintenance points for trash pick-up, etc.

e. Construction costs of facilities will be mitigated by actively pursuing available funding sources through federal, state and regional agencies.

ALTERNATIVES

1. "No-Project" Alternative

In considering the "no-project" alternative, one must first assess the existing situation of non-motorized transportation. First, there is no existing unified program to coordinate and direct the various systems. Conflicts with other modes of transportation pose questions of safety that have not been adequately answered. There is a lack of facilities for hiking and horseback riding in the City. With the anticipated changes as a result of redevelopment of the downtown area, a coordinated plan for pedestrian circulation and bicycle traffic is necessary to assure suitable circulation in the urbanized area. This does not presently exist.

Therefore, the "no-project" alternative will not satisfy the recreational and transportation-related needs of the people of Oceanside. Delaying the formulation of the plans recommended by the subelement would cause the loss of opportunities that currently exist to fully integrate the various non-motorized transportation systems with urbanization of certain areas. Superimposing these facilities at a later date would be difficult, if not impossible.

2. Limited Project Alternative

The limited project alternative would entail decreasing the number of routes on the proposed plan. The effectiveness of the complete circulation system would diminish with this alternative, and opportunities for implementation may be lost. However, a benefit of this alternative would be a concentration of planning and analysis on fewer routes.

The proposed plan provides an adequate circulation system for non-motorized transportation. The beneficial effect of limiting the scope of the plan can

be accomplished by the development of an implementation program. This would direct planning efforts to analyze specific portions of the plan, without sacrificing the efficiency of the total system.

3. Expanded Project Alternative

The question posed by this alternative is whether or not the proposed systems will be adequate to serve the potential use of non-motorized transportation facilities. The purpose of the network is to provide a grid framework for overall circulation throughout the City. It is anticipated that further expansion of portions of the system may be necessary at some point in the future to accommodate further development, but this expansion will be predicated on demand. The system, as proposed, is adequate to serve the foreseeable demand, and has sufficient flexibility to be expanded at a later date without radical change to the overall plan.

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